

MMS ENVIRONMENTAL STUDIES PROGRAM: ONGOING STUDIES

Region: Alaska

Planning Area: Chukchi Sea

Title: Monitoring Marine Birds of Concern in the Eastern Chukchi Nearshore Area (Loons) (AK-07-04a)

MMS Information Needs to be Addressed: The initial MMS environmental impact analysis for the 5 Year Program, 2007-2012, identifies species of concern in the Chukchi Sea and recent Conservation Recommendations to MMS (Section 7 Consultation, Beaufort Sale 186) recommended research on migratory species of concern. Thus, updated information on marine bird distribution, species composition, molting, staging and timing of use in the eastern Chukchi coastal area between Barrow and Point Hope is needed. Avian species of moderate-high concern include the Spectacled Eider, Yellow-billed Loon, Red-throated Loon, and Pacific Black Brant. Both the threatened Spectacled Eiders and the Yellow-billed Loon occur in coastal and marine environments from Barrow south to Cape Lisburn. Ledyard Bay is ESA Critical Habitat for the Spectacled Eiders, and limited surveys indicate Peard Bay may also be an important molting area.

Study findings will be used in post-sale NEPA analysis, ongoing ESA Section 7 Consultations, review of EPs, DPPs and other reviews for post-sale and post-exploration decision making and mitigation. Also, study results will be used in similar pre-lease analyses and documentation for later Chukchi Sea Lease Sale(s) in the *Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*.

Total Cost: \$750,000

Period of Performance: FY 2007-2011

Conducting Organization: USGS-BRD

MMS Contact: [Chief, Alaska Environmental Studies Section](#)

Description:

Background Specific areas identified for study in this profile are very important Chukchi Sea coastal lagoons and embayments where waterfowl seasonally concentrate. These locations are vulnerable to industrial disturbance or oil spills potentially associated with offshore oil and gas exploration and development. Scientists have identified the lagoons, bays, and barrier islands along the Alaskan coast of the Chukchi Sea as important feeding, staging, and molting areas for relatively large numbers and a diverse assemblage of water birds breeding in both Alaska and Canada. Peard and Ledyard Bays and Kasegaluk Lagoon, in particular, appear to represent important staging and/or molting habitat for a variety of shorebirds, seabirds (nesting colonies at Point Hope, Cape Lewis, Cape Lisburne, Point Lay, Icy Cape, and Cape Thompson), and waterfowl. In particular, it is critical to identify high-use areas by threatened Spectacled Eiders. Also, the USFWS was petitioned in 2004 to list the Yellow-billed loon under the ESA and thus this species is of concern to MMS. USFWS aerial surveys recorded fairly sizeable concentrations of Spectacled Eiders in Peard Bay, particularly in August which are presumably

molting birds. Scientists have identified Kasegaluk Lagoon as a major fall staging area for a large proportion of the Pacific Flyway population of Black Brant (approximately 40%). Coastal aerial surveys and on-shore migration surveys encountered Yellow-billed loons, particularly in the fall. Recent satellite telemetry locations of post-breeding Yellow-billed Loons provide additional evidence of the importance of nearshore habitat at Peard and Ledyard Bays, and offshore habitat near Point Hope in the Chukchi Sea. Though the OCS Environmental Assessment Program completed several avian studies in this region, most were done 15-20 years ago.

The MMS share shown above represents 50 percent of the estimated total joint funding needed for a single component, loons only. Joint funding may be established through coordination with NSSI, BLM, USFWS, or USGS.

Objective Document spatial distribution, species composition, timing of use and residence times by foraging, molting, and staging Spectacled Eider, Yellow-billed and Red-throated Loons, and Pacific Black Brant in the vicinity of Peard Bay, Ledyard Bay, and Kasegaluk Lagoon in the eastern Chukchi nearshore environment.

Methods

1. Conduct periodic low-level (45-50 meters) aerial surveys along transects established perpendicular to the shoreline (late summer) and along open-water leads (spring) to document spatial distribution, species composition, and timing of use by marine birds and waterfowl.
2. Using a combination of implanted satellite and VHF transmitters, document both local and long-distance movements of marked individuals during the breeding and post-breeding period for Yellow-billed and Red-throated Loons and staging Pacific Black Brant.
3. Using a combination of behavioral observations and monitoring of implanted transmitters, estimate distance flown/feeding flight, time away from nest, and food items provisioned to young for Yellow-billed and Red-throated Loons. Using either satellite telemetry or transmitters and remote stations to estimate peak arrival and departure times, as well as residence times for a sample of Pacific Black Brant in Kasegaluk Lagoon.
4. Using either focal or scan sampling techniques, document proportion of time spent feeding (versus other behaviors) by staging Pacific Black Brant. Quantify foraging behavior (e.g., foraging bout length, pecks/minute) and foods consumed via direct observation. Collection of birds on various dates post-arrival would provide invaluable information on both diets and nutrient acquisition and energetics.

Current Status: Field work was completed during 2007.

Final Report Due: 2012.

Publications Completed: None

Affiliated WWW Sites: <http://www.mms.gov/alaska/>

Revised Date: March 2008